

# Can Serial Rapists be Distinguished from One-off Rapists?

Slater, Chelsea; Woodhams, J.; Hamilton-Giachritsis, C.

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## **Are One-Off Rapists just Serial Rapists that were Apprehended?**

Chelsea Slater, Jessica Woodhams and Catherine Hamilton-Giachritsis

University of Birmingham

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Correspondence concerning this article should be addressed to Chelsea Slater, School of Psychology, Frankland Building, University of Birmingham, Edgbaston, Birmingham, B15 2TT, UK. Email: [cls011@bham.ac.uk](mailto:cls011@bham.ac.uk).

### **ABSTRACT**

There are investigative advantages to being able to determine early in a police investigation whether a sexual offence has been committed by a serial or one-off rapist. Previous research has found some differences in the crime-scene behaviours of serial and one-off rapists, however this research suffers from the limitation of sampling rapes for which there is a mixture of victim-offender relationships. To test the hypothesis a sample of 38 serial (two or more convictions) and 50 one-off (one conviction), stranger rapists were compared across four domains of crime-scene behaviours (control, sex, escape and style). Results show that serial and one-off rapists differ in both the control and sex domains; particularly in terms of the type of victim targeted, the locations chosen for the offence, methods of control and the sexual acts that they force upon the victim. The implications of these findings for criminal investigations are discussed.

Keywords: serial, singleton, single, rape, crime scene behaviour

### **Are One-Off Rapists just Serial Rapists that were Apprehended?**

In western societies, between 13-25% of women are victims of sexual violence at some point in their lives, with many of these offences never being reported to police (Elliott, Mok & Briere, 2004; Hazelwood & Burgess, 2008; Koss & Dinero, 1989; Tjaden & Thoennes, 2000). A Home Office report (2011) for crime in England and Wales found that approximately 3% of women and 1% of men had experienced some form of sexual assault within the last twelve months. While these numbers may appear low, it should be noted that although most other types of interpersonal violence decreased from 2004/05 to 2010/11, figures for sexual assault have not changed (Home Office, 2011).

Although figures suggest that it is a significant minority of women who will experience sexual violence during their lives, fear of such violence is widespread (Warr, 1985). Specifically, women are significantly more afraid of being raped by an unknown assailant than by an acquaintance (Hickman & Muehlenhard, 1997; Wilcox, Jordan, & Pritchard, 2006). Conversely, when investigating incidences of rape, assaults by acquaintances are more common, with unknown assailants accounting for the minority of sexual assaults (Bridges & McGrail, 1989; Koss, Dinero, Seibel, & Cox 1988). In England and Wales, for example, approximately 14% of all sexual offences are committed by strangers (Feist, Ashe, Lawrence, McPhee & Wilson, 2007). Studies have shown that even when women acknowledge that acquaintance rape is more common, they still report higher fear of sexual assault by an unknown assailant (Hickman & Muehlenhard, 1997). Fear of crime has been associated with perceptions of policing effectiveness (Reisig & Parks, 2000); therefore identifying effective means of reducing

stranger rape could assist in reducing fear of crime as well as improving public satisfaction with the Police.

Across crime types it has been observed that the majority of crime is committed by a minority of offenders (Piquero, Farrington, & Blumstein, 2007). From these observations new strategies for attempting to combat crime have arisen. For example, intelligence-led policing aims to target prolific offenders, because they have the capacity to cause the most harm, thereby most effectively utilising limited police resources (Innes, Fielding, & Cope, 2005). Some preliminary evaluations have suggested that this practice may work for certain crime types, such as burglary and vehicle crimes (Machin & Marie, 2006). This investigative strategy can also be applied to target serial rapists and sexual offenders, the prolific offenders of this type of crime, for example through the use of behavioural crime linkage (Woodhams, Hollin & Bull, 2007).

In a recent Government report entitled *Forging the links: Rape investigation and prosecution* Her Majesty's Inspectorate of Constabulary (HMIC) and Her Majesty's Inspectorate of the Crown Prosecution Service (HMICPS) (2012) reported on their investigation of current police procedures and results in England and Wales. One of the main recommendations of their investigations was to improve the collection of intelligence, specifically with regard to serial rapists. The report noted confusion within police forces regarding what constituted a serial rapist and adopted the definition commonly used in academic research (Beauregard, Rossmo, & Proulx, 2007; Grubin, Kelly, & Brunsdon, 2001; LeBeau, 1987; Park, Schlesinger, Pinizzotto, & Davis, 2008; Santtila, et al., 2005) and also used in the current article: Serial rapists are those who commit more than two offences against different victims. A key recommendation of this

publication was that police forces should treat every stranger rape that is reported to them as part of a potential series. This is a potentially costly recommendation to implement, in terms of both time and resources.

In responding to such a recommendation in a cost-effective way, it would be beneficial for police forces to be able to differentiate at the early stages of an investigation whether they are indeed dealing with a serial rapist or a “one off” rapist. One way of achieving this has been suggested by previous authors (Grubin et al., 2001) and involves attempting to use crime scene behaviour (as reported by the victim) to predict whether a rapist is likely to be a serial rapist or a one-off rapist.

### **Differentiating one-off from serial offenders**

Several studies have tried to identify means of differentiating between serial and one-off offenders. These studies have tended to focus on homicide offenders or rapists. Kraemer, Lord, and Heilbrun (2004) studied a sample of homicide offenders gathered from Federal Bureau of Investigation records. Their sample consisted of 195 single (one-off) offenders (who accounted for 133 victims), and compared them to the first offence of 147 serial offenders (who accounted for 133 victims). Using a chi squared analysis they looked at victim and offender characteristics, intent, relationship between victim and offender, approach, locations, body disposal, and different evidence types. Their three most significant findings were that serial offenders were more often strangers to their victims, more likely to strangle their victims, and leave the victim's body in a remote location. Using a Discriminate Function Analysis based on the crime scene variables they were able to correctly classify into single or serial homicide 72.2% to 76% of the cases (depending on the number of variables included), and when focusing on female victims only the percentage increased to 78.6%.

Salfati and Bateman (2005) also investigated single and serial homicides. They compared a sample of 23 serial murderers from the USA to a sample of 247 single murderers from the UK from a previous study (Salfati, 2003). They examined 61 crime scene behaviours and 33 offender characteristics. They found that serial murderers were more likely to display behaviours that reflected a higher degree of planning and control, compared to the single murderers whose crimes were more impulsive and emotional. The serial offenders' behaviours appeared to be more frequently motivated by delaying detection, controlling the victim, theft of property and engaging in sexual acts with the victim. The most common behaviours displayed by the single offenders were related directly with the killing. Salfati and Bateman suggested single (one-off) murderers are focused on the actual murder whereas serial murderers are influenced more by other motives.

With regards to differentiating serial from one-off *rapists*, only three studies have investigated ways of doing this. In 1987, LeBeau investigated the offending patterns of serial rapists compared to "open" cases of rape (rapes where the identity of the suspect remained unknown) and one-off rapists. The sample was comprised of all 612 incidences of rape perpetrated by a lone offender in San Diego, California, from 1971-1975; separated into 194 open cases, 80 single, and 151 serial offences. Using chi square analyses, the relationship between the rapist and the victim, the approach, and the number of scenes involved in the offence were compared across groups. Similar to Kraemer et al.'s findings for serial murderers, LeBeau found that the serial rapists were significantly more likely to be strangers to their victims. The serial offenders were also more likely to use a blitz style approach and not move their victims very far. LeBeau speculated that several behaviours commonly displayed by the serial rapists were

related to avoiding or delaying their apprehension. The serial rapists, therefore, were similar in this respect to the cases that remained unsolved (the open cases) allowing the serial offender to commit multiple offences before being apprehended.

It was not until 2001 that Grubin, Kelly, and Brunsdon, conducted the next study to investigate differences between serial and singleton (one-off) offences of serious sexual attacks. From a UK database of sexual assaults they sampled the crimes of 129 one-off offenders and 81 serial offenders who had committed 339 attacks. They arranged 30 crime scene behaviours present in their sample into four different domains and used cluster analysis to develop distinct types within each domain. The four domains were termed control (behaviours focused on gaining control of the victim), sex (behaviours that are part of the sexual component of the attack), escape (behaviours associated with leaving the crime scene or avoiding detection), and style (behaviours that are not necessary for the attack that reflect the offender's personality or style). Having grouped the crime scene behaviours in this way, Grubin et al. initially conducted a cluster analysis to determine whether "singleton" offences would cluster differently to serial offenders' "first", "second", etc. offences. From this analysis, a cluster was identified that contained 61% of the singleton cases and first offences in the series, however it also contained 42% of the subsequent crimes in the series meaning any differences between this cluster and others would be of limited practical value. They therefore adopted an alternative methodology which involved comparing the frequency of domain types across each series to determine if some behaviours were more indicative of earlier or later serial offending behaviour. They concluded that some types of behaviour may indicate that an offence is part of a series, especially if the



behaviour assists the offender in avoiding detection and when the offender's sexual behaviour is interactive and demeaning to his victim.

The most recent research into serial and one-off rapists was conducted by Park, et al. (2008). The behaviours of 22 serial rapists from the USA were compared to 22 one-off rapists using chi-square analyses. For the serial rapists, two offences from each series were randomly selected for comparison to the one-off rapists' offences. Twenty-eight different behavioural variables were studied which were divided into three themes: violence, interpersonal involvement, and criminal sophistication. The violence theme contained 11 variables that represented the nature of the offender's violence towards the victim (e.g. blitz-style attack, weapon use, vaginal penetration). The one-off rapists were more likely to display these types of behaviours; specifically threatening the victim and engaging in manual hitting and kicking, as well as vaginal and/or oral penetration. The interpersonal involvement theme comprised seven variables which described the type of interaction between the victim and offender (e.g. using a confidence approach, making sexual comments, extending time with the victim). One-off offenders were more likely to force the victim to participate in the sexual assault and more often made sexual comments (e.g. "Do you like it?") than the serial offenders. The criminal sophistication theme consisted of 10 variables that focused on assisting the offender in the commission of the offence (e.g. having forensic awareness, planning, gagging the victim). Here the serial offenders are more likely to display forensic awareness, deter the victim's resistance, gag the victim, use a surprise attack, ask the victim questions, and complete the act of rape.

### **Rationale**

As can be seen above, the existing literature on whether there are differences in crime scene behaviour between serial and one-off offenders is very limited meaning there is little guidance at present that the police could utilise in trying to determine early in an investigation if they are dealing with a serial or a one-off offender. With regards to the recommendations from the *Forging the links* report, there are only three existing studies of serial versus one-off rapists that could give any indication as to what crime scene behaviour might suggest a rape was committed by a serial offender, rather than a one-off rapist. In addition, all three studies with rapists cited above suffer from the same methodological flaw, that they have analysed samples of rapists who have a mixture of relationship types with their victims, i.e., their samples contain offenders who were acquainted with their victims as well as those who were strangers to their victims. The relationship between offenders and victims will likely impact the behaviours displayed during the offence, such as the approach style utilised or the means used to control the victim. For example, associations between victim age and victim-offender relationship have been reported in studies of rape with older victims more likely assaulted by strangers (Muram, Hostetler, Jones & Speck, 1995), as well as differences between stranger and acquaintance rapes in terms of approach location, violent acts, weapon use, sexual acts, use of intoxicants and post-rape offender behaviour (Bownes, O’Gorman, & Sayers, 1991; Koss, Dinero, Seibel, & Cox, 1988). Previous findings of differences in the offence behaviour displayed by serial versus one-off rapists could therefore be a product of differences in the proportions of victim-offender relationships in the two subsamples.

The current study aimed to add to this limited literature whilst at the same time overcoming this fundamental assumption by solely sampling stranger rapists who were

either serial or one-off offenders. The study investigated whether there were differences in crime scene behaviours displayed by serial and one-off stranger rapists to determine which behaviours could be utilised in practice to differentiate between the two subtypes of offender.

## **METHOD**

### **Sample**

A non-random national sample of rapes was obtained from the Serious Crime Analysis Section (SCAS), of the Serious Organised Crime Agency, UK. SCAS is an analytical unit with national responsibility to carry out analytical work on behalf of all police forces. SCAS collates and analyses information on serious crimes that fulfil its criteria, predominately stranger murders, and serious sexual assaults and/or rapes. SCAS hold a database called the Violent Crime Linkage Analysis System (ViCLAS) which contains information about the location of sexual crimes that meet their criteria and the behaviours displayed during each offence by the offender. They hold the most comprehensive dataset of stranger rapes in the UK.

A sample of rapes and attempted rapes committed by serial and one-off adult male, sexual offenders was requested from SCAS. The rapes all met the definition of rape as stated in the Sexual Offences Act of 2003. This defines rape as where “A person commits an offence if he intentionally penetrates the vagina, anus or mouth of another person with his penis” and that person does not consent (Sexual Offences Act, 2003, p. 1). A sample of 38 serial and 50 one-off rapists and their offence behaviours were provided for analysis. The cases only included those with a lone, female victim and a lone, stranger, male offender. All crimes included in the sample were from cases that were closed with the offender having been convicted of the offence.

*Serial Rapists*

The sample of serial rapists represented 38 males with a mean age at the time of the offence of 31.4 years (range 18-57 years). Seventy-four per cent of the offenders ( $n=28$ ) were of White European ethnicity, 8% ( $n=3$ ) were Dark European, 13% ( $n=5$ ) were African or Caribbean, and 5% ( $n=2$ ) identified as Other.

The serial offenders committed a combined 147 known sexual offences, of which 120 were rapes or attempted rapes. Only the latter 120 offences were utilised within the analysis comparing serial versus one-off rapists to ensure consistency in the offence types under comparison. The offenders' series ranged from two to 10 offences, and the mean series length was four offences (the mode was three offences per offender). For statistical reasons only one rape from each series was included in the sample for analysis.

*One-Off Rapists*

The one-off rapists had a mean age at the time of the offence of 30.9 years (range 18-55 years). All offenders were male. Seventy per cent of the offenders ( $n=35$ ) were of White European ethnicity, 2% ( $n=1$ ) were Dark European, 12% ( $n=6$ ) were African or Caribbean, 10% ( $n=5$ ) were Asian, 4% ( $n=2$ ) were Arabic, and 2% ( $n=1$ ) were identified as Other. Of the 50 offences they had committed, 10 were attempted rapes, while 40 were completed rapes.

*Serial Rapists' Victims*

All 38 of the victims, from the studied sample, were female, and their mean age at the time of the offence was 30.0 years (range 18-76 years). Seventy-six per cent ( $n=29$ ) of the victims were of White European ethnicity, 3% ( $n=1$ ) were Dark European,

3% ( $n=1$ ) were Arabic, and for 18% ( $n=7$ ) their ethnicity was not recorded on the police database.

### *One-Off Rapists' Victims*

All the victims were female, with a mean age at the time of the offence of 28.2 years (range 18-59 years). Eighty-four per cent ( $n=42$ ) of the victims were of White European ethnicity, 2% ( $n=1$ ) were African or Caribbean, 4% ( $n=2$ ) identified as Other, and for 10% ( $n=5$ ) their ethnicity was not recorded.

### **Procedure**

Based on the victim's account of the crime, SCAS codes each offence that comes to their attention in a standard manner onto their Violent Crime Linkage Analysis (ViCLAS) database. The data regarding the offenders' behaviours during the offence were provided to the authors as a spreadsheet of numerical codes representing this standardised coding. In total, 217 different behaviours were included in this spreadsheet ranging from the type of location at which the offence was committed, to forms of violence used against the victim to forensic precautions and sexual acts. All the variables had been coded dichotomously, where 1 represented the presence of an action or behaviour during the offence, while 0 represented an absence or unknown data for a given behaviour. Inter-rater reliability assessments of this coding were not possible as the data was already coded when it was provided to the authors. Significant efforts are made within SCAS to ensure standardized input and quality assurance of the data. All data is input within the unit following very strict and specific guidance. All inputs are peer reviewed prior to analysis taking place, and consistency exercises are undertaken to ensure consistent coding of information. No information that could be used to identify the offender, victim, or location was present within the spreadsheet given to the authors

thereby protecting the identity of all parties. In accordance with previous research on the behaviour of serial rapists (Santtila, et al., 2005), behaviours that did not occur in at least five per cent of the total offences were not included in the analysis. This resulted in a total of 80 offence behaviours for comparison across serial and one-off rapists.

As noted above, the number of offences committed by each serial rapist varied from two to 10. In order to prevent the more prolific of the serial offenders from unnecessarily biasing the results, only one crime from each offender was included in the analysis. It is standard practice in research on serial criminals to control for potential bias in this way (Bennell & Canter, 2002; Parks et al., 2008). Several different methods have been used to select such cases from a larger pool including using the last known offences committed (e.g. Woodhams & Toye, 2007), or random selection (e.g. Parks et al., 2008). It was decided to use the random method since this method has been used in studies comparing one-off versus serial rapists in the past (Parks et al., 2008). Additionally, in reality it would not be known, in a police database of unsolved offences, the position of a given offence within the series (i.e., first, second, third and so on). The one offence per serial rapist was chosen randomly using a random number generator, resulting in a sample of 38 offences by serial offenders for comparison to the 50 one-off offences. Of the 38 serial offences, six were attempted rapes, while the other 32 were completed rapes, and for the 50 one-off offences 10 were attempted rapes, while the other 40 were completed rapes.

## **RESULTS**

Comparisons were made between the frequencies of behaviours exhibited by serial vs. one-off offenders for the 80 offence behaviours. These behaviours have been grouped, as indicated below, into four domains commonly used to describe sexual

offending behaviour for ease of presentation. These domains are control, sex, escape, and style behaviours. The behaviours were categorised into the domains according to how they have been placed by previous researchers (Grubin et al., 2001; Woodhams, Grant & Price, 2007). For each behaviour the frequency of occurrence in the offences of serial vs. one-off offenders was assessed using chi-square analyses. Significant associations are highlighted in the tables and effect sizes (phi) are reported for all comparisons. A Phi coefficient between .2 and .3 is considered a small effect size, .3 and .5 is a medium effect size, and a value greater than .5 is considered a large effect size (Field, 2009).

### **Control Domain**

The Control domain contained any behaviour that is deemed “necessary to create and maintain an environment in which the crime can take place” (Grubin et al., 2001, p. 14). This includes actions such as where the offence occurred (e.g., Alleyway), how the offender approached the victim (e.g., Asked Victim for Help), and how the offender kept the victim incapacitated (e.g., Gagged Victim).

Table 1 displays the frequencies of control behaviours for the serial and one-off rapes, as well as the frequencies for the entire sample of rapes. A number of significant associations were found as well as several small and a medium effect sizes. The most significant finding was that the serial rapists were more likely to have used solicited their victim, which had an associated Phi value of .413, a medium sized effect. The serial rapists were also significantly more likely to commit the offence in a retail area, a parking area, or a street; however, the effect sizes for these associations were small. There was also a small but comparable effect size for the offence happening in a wooded area which was not significant but which was common to the serial rapist

group. The victims of serial rapists were significantly more likely to be bound during the offence; however, again, the effect size here was small. In contrast, the one-off rapists were significantly more likely to have committed their offence indoors. They were also more likely to have used the approach of engaging in a conversation with the victim. Both of these associations were characterised by a small effect size. There was also a small but comparable effect size for the rapist offering the victim a ride. This behaviour was more common to the one-off rapist group, although, again, this association was not significant.

### **Sex Domain**

The Sexual behaviour domain contains all the sexual acts that were part of the offence including physical acts and verbalisations about sexual acts (Woodhams, Grant et al., 2007). For example, located within this domain are behaviours such as forms of penetration (e.g. Offender Used Penis to Penetrate Vagina), levels of undress (e.g. Victim was Naked), who undressed whom (e.g. Offender Disrobed Victim), and sexual comments made by the offender (e.g. Offender Discussed Sex Acts).

As can be seen from Table 2, the serial rapists were significantly more likely to fondle their victims and force the victims to masturbate them. The serial rapists were also more likely to discuss sex acts with their victims during the offence. The effect sizes for these three associations were all small.

### **Escape Domain**

The Escape domain contains all the behaviours where the main function was to aid in the offender's escape from the scene and avoiding detection (Woodhams, Grant et al., 2007). These include certain precautions (e.g. Wore Gloves) and verbal themes used by the offenders (e.g. Warned Victim Not to Report Offence). There were no



statistically significant associations between rapist type and the occurrence of behaviours in this domain, nor were there any notable effect sizes.

### **Style Domain**

The Style domain contains all the behaviours that do not aid in the commission of the offence, but are instead something that the offender chooses to do (Grubin, et al., 2001). All of the behaviours in this domain are verbal themes (e.g. Apologies to Victim). There were no statistically significant associations in this domain, nor were there any notable effect sizes.

## **DISCUSSION**

This study aimed to address several of the limitations of existing research contrasting the crime scene behaviour of serial and one-off rapists by focusing solely on rapists who were strangers to their victims. Previous studies (LeBeau, 1987; Park et al., 2008) had found differences in the offence behaviours of such individuals; however it was unclear if these were due to the inherent differences between serial or one-off rapists or a result of the mixture of victim-offender relationships in the samples. As with earlier studies, the majority of the behaviours included in the analysis did not differ significantly in terms of frequency of occurrence between the serial and the one-off rapists (Park et al., 2008). All of the significant differences in frequency that were found were located within the control and sexual behaviour domains.

The most significant difference found in this study between the behaviours displayed by serial and one-off rapists was the con approach of soliciting the victim, which was more often utilised by serial rapists. By implication, the victims of serial rapists were therefore significantly more likely to be sex workers. There is evidence from other research that serial sex offenders target sex workers, and that the offences

against them are more violent (Silbert & Pines, 1982, 1984). Research on serial homicide has reported a similar relationship with serial murderers targeting prostitutes (Fox & Levin, 1998).

Closely tied to the use of the con of soliciting were the locations that were chosen by the serial offenders for the offence, namely parking areas or on the street. One of the most striking advantages for the offender of targeting a sex worker as a victim is that he/she is likely to go alone with the offender to a more remote location. There are also certain locations that sex workers choose, specifically to facilitate their businesses, which are then sought by the offender (Douglas, Ressler, Burgess, & Hartman, 1986). Most of the scene locations were places where there would not have been many people around at the time of the offence. Several studies have shown that sexual offenders weigh up the costs and benefits of where and when they commit their offences, and that there is a rationale behind their actions (Beauregard & Leclerc, 2007; Beauregard, Rossmo, & Proulx, 2007). The serial rapists' apparent preference for targeting sex workers has another advantage for their continued offending: research shows that sex workers are reluctant to report rape and sexual assaults to the Police (Silbert, 1981, as cited in Barnard, 1993; Sullivan, 2007), therefore the offender can continue his offending without attracting police attention and hence qualify as a serial rapist.

The one-off offenders, in contrast to the serial offenders, were more likely to try and con their victim by engaging her in a conversation. There was also a trend for one-off rapists to more often offer the victim a ride. This is a very different style of approach to the serial rapists, and would tend to be associated with a different type of location than those frequented by sex workers and their clients. As such, the one-off offenders

were subsequently more likely to commit their offence indoors. Given that the one-off offender would have had to talk face-to-face with the victim to either engage in a conversation or offer a ride, the victim has more time during which to observe the offender's appearance and also possibly note other identifying information, such as their type of vehicle or registration plate. It is possible that such an approach while successful in facilitating a completed or attempted rape, also aids in the future apprehension of the offender.

Another behaviour within the control domain that might aid in the continued offending of serial rapists was their more frequent use of binding the victim. Binding the victim inhibits her ability to seek help from potential witnesses through physical means and could potentially buy the offender more time in which to escape safely from the scene before the victim could raise the alarm. Previous studies have suggested that serial offenders are more "criminally sophisticated" and that this is what aids them in avoiding detection (Park, et al., 2008). Besides binding the victim, no other statistical differences in the control behaviours of serial or one-off offenders were found, although similar trends to Park et al.'s study were noted. For example, the elevated frequency of gagging the victims by serial offenders could also not only facilitate the commission of the offence itself by preventing disturbance by a third party, but also prolong the period of time in which the offender can make a safe departure.

The other main area of difference between serial and one-off rapists that was seen in this study was regarding the actions involved in the sexual component of the crime. The serial rapists engaged in more sexual acts than the one-off rapists; specifically fondling the victim, forcing the victim to masturbate the offender, and discussing sex acts with the victim during the crime. These are very different findings

than what Park et al. (2008) found in their study where similar behaviours were more often associated with the one-off rapists. Park et al. suggested that these verbal themes, especially communications with the victim about the offender's fantasy and sex acts, helped investigators apprehend the offender. However, this study found that the serial offenders were more likely to talk about sex acts during the offence.

In their study of stranger rapists, Canter, Bennell, Alison, and Reddy (2003) found four styles of behaviour within stranger rapes; control, theft, involvement and hostility, which have been previously reported in other studies of sexual offences (see Canter et al., 2003 for a review). These styles are proposed to affect the way a rapist will relate to his victim, for example, rapists adopting an involvement style treat their victim as a reactive individual (as a person), whereas more controlling rapists are proposed to treat their victim as an object. Canter et al. suggest that the style adopted will result in different themes of verbal communication between rapist and victim. This seems to be reflected in the sample for this study, with the serial rapists appearing to adopt a more involved style of verbal communication, although it should be noted that some of their other behaviours, such as forcing the victim to masturbate them and binding the victim, would represent a more hostile or controlling style, respectively.

When considered as whole, the crime scene behaviours of the serial and one-off offenders were more similar than different. This presents a significant challenge to investigators wishing to use crime scene behaviour, as reported by the victim, as a means of differentiating rapes likely to have been committed by serial rapists from those of one-off rapists. With the recommendation in the *Forging the links* report that all stranger rapes should be treated as a potential serial offence, any way of differentiating between the two types of rape would be beneficial. This study has found several

variables that may be useful early in the investigation to attempt to separate the two types of rape, however these were very limited in number.

### **Limitations**

There were some limitations to the study that would necessitate caution before applying these findings to all stranger rapists. It cannot be guaranteed that the one-off rapists included in this study have only committed the one offence, since it is not possible to be certain that the offences included in a study are the only ones the offender has committed. As such, some one-off rapists in this study may instead be serial rapists. In addition, in the absence of definitive DNA evidence, we cannot be completely certain of the “serial” status given to some offenders, due to the possibility of miscarriages of justice. These are limitations common to studies of this nature (Mokros & Alison, 2008; Santtila, et al., 2005) which must rely on conviction to categorise the offenders in this way. Such errors in classification could mask potential differences in behaviour between one-off and serial rapists.

The data that were utilised in this study was based only on offences with convictions, therefore our sample cannot be considered representative of all stranger rapes. This is because it is well established that rapes which are prosecuted and result in a conviction more closely reflect rape myths in our societies (Frazier & Haney, 1996; Harris & Grace, 1999) and may contain different offence behaviours to those committed by offenders that have not been apprehended (Bennell & Canter 2002; Woodhams, Hollin et al., 2007). We cannot, therefore, be sure that our findings will transfer to crimes that remain unsolved, the type of crime to which investigators would apply the findings in practice. However, as noted above, the methodology required to compare apparent one-off with serial rapists necessitates it being “known” which offenders have

committed just one offence or several; therefore it would be very difficult to overcome this limitation.

### **Conclusion**

It has long been a policing priority to target prolific offenders; however, in the current fiscal climate it is even more advantageous to be able to target limited police resources in this way. This year, in England and Wales, the Government also advised police forces to initially consider every stranger rape part of a potential series (HMIC & HMICPS, 2012). This is potentially a costly and time-consuming exercise which could be aided if it were possible to distinguish serial from one-off stranger rapists on the basis of crime scene behaviour, reports of which are available in the initial stages of a police investigation. This study aimed to contribute to a very small set of existing studies which have tried to empirically establish means of differentiating serial from one-off rapists by addressing limitations in study design. The findings of this present study suggest that there may indeed be a limited number of differences in the offence behaviour displayed by a one-off stranger rapist and a serial stranger rapist, particularly in terms of the type of victim targeted, the locations chosen for the offence, methods of control and the sexual acts that they force upon the victim.

## REFERENCES

- Barnard, M. (1993). Violence and vulnerability: conditions of work for streetworking prostitutes. *Sociology of Health and Illness*, 15, 683-705. doi:10.1111/1467-9566.ep11434434
- Beauregard, E., & Leclerc, B. (2007). An application of the rational choice approach to the offending process of sex offenders: A closer look at the decision-making. *Sexual Abuse: A Journal of Research and Treatment*, 19, 115-133. doi:10.1177/0093854807300851
- Beauregard, E., Rossmo, K., & Proulx, J. (2007). A descriptive model of the hunting process of serial sex offenders: A rational choice perspective. *Journal of Family Violence*, 22, 449-463. doi:10.1177/0093854807300851
- Bennell, C., & Canter, D. (2002). Linking commercial burglaries by *modus operandi*: tests using regression and ROC analysis. *Science and Justice*, 42, 1-12. doi:10.1016/S1355-0306(02)71820-0,
- Bownes, I.T., O’Gorman, E.C., & Sayers, A. (1991). Rape – a comparison of stranger and acquaintance assaults. *Medicine, Science and the Law*, 31, 102-109. doi:10.1111/j.1600-0447.1991.tb05507.x
- Bridges, J.S. & McGrail, C.A. (1989). Attributions of responsibility for date and stranger rape. *Sex Roles*, 21, 273-286. doi:10.1007/BF00289907
- Canter, D., Bennell, C., Alison, L.J., and Reddy, S. (2003). Differentiating sex offences: a behaviorally based thematic classification of stranger rapes. *Behavioral Sciences & the Law*, 21, 157-174. doi: 10.1002/bsl.526

Douglas, J.E., Ressler, R.K., Burgess, A.W., & Hartman, C.R (1986). Criminal profiling from crime scene analysis. *Behavioral Sciences & the Law*, 4, 401-421.

Doi:10.1002/bsl.2370040405

Elliott, D.M., Mok, D.S., & Briere, J. (2004). Adult sexual assault: Prevalence, symptomatology, and sex differences in the general population. *Journal of Traumatic Stress*, 17, 203-211. doi: 10.1023/B:JOTS.0000029263.11104.23

Feist, A., Ashe, J., Lawrence, J., McPhee, D., & Wilson, R. (2007). *Investigating and detecting recorded offences of rape* (Home Office Online Report 18/07).

London: Home Office. Retrieved from

<http://library.npia.police.uk/docs/hordsolr/rdsolr1807.pdf>

Field, A. (2009). *Discovering statistics using SPSS* (3rd ed.). London, England: SAGE.

Fox, J.A. & Levin, J. (1998). Multiple homicide: Patterns of serial and mass murder.

*Crime and Justice*, 23, 407-455. Retrieved from

<http://www.jstor.org/stable/1147545>

Frazier, P.A., & Haney, B. (1996). Sexual assault cases in the legal system: Police, prosecutor, and victim perspectives. *Law and Human Behavior*, 20, 607-628.

doi: 10.1007/BF01499234

Grubin, D., Kelly, P., & Brunson, C. (2001). Linking serious sexual assaults through behaviour: HORS 215. *Home Office Research Development and Statistics*

*Directorate*. Retrieved from <http://library.npia.police.uk/docs/hors/hors215.pdf>

Harris, J., & Grace, S. (1999). A question of evidence? Investigating and prosecuting rape in the 1990s. *Home Office Research Study 196*. Retrieved from

<http://rds.homeoffice.gov.uk/rds/pdfs/hors196.pdf>



- Hazelwood R., Burgess A. (2008). *Practical aspects of rape investigation: A multi-disciplinary approach* (4th edition). New York, NY: Taylor & Francis.
- Her Majesty's Inspectorate of Constabulary (HMIC) and Her Majesty's Inspectorate of the Crown Prosecution Service (HMICPS) (2012). *Forging the links: Rape investigation and prosecution*. Retrieved from <http://www.hmic.gov.uk/media/forging-the-links-rape-investigation-and-prosecution-20120228.pdf>
- Hickman, S.E. & Muehlenhard, C.L. (1997). College women's fears and precautionary behaviors relating to acquaintance rape. *Psychology of Women Quarterly*, 21, 527-547. doi: 10.1111/j.1471-6402.1997.tb00129.x
- Home Office (2011). *Statistical news release: Crime in England and Wales 2010/11*. Retrieved from <http://www.homeoffice.gov.uk/publications/science-research-statistics/research-statistics/crime-research/hosb1011/hosb1011snr?view=Binary>
- Innes, M., Fielding, N., & Cope, N. (2005). The appliance of science? The theory and practice of criminal intelligence analysis. *British Journal of Criminology*, 45, 39-57. doi:10.1093/bjc/azh053
- Koss, M.P. & Dinero, T.E. (1989). Discriminant analysis of risk factors for sexual victimization among a national sample of college women. *Journal of Consulting and Clinical Psychology*, 57, 242-250. doi:10.1037/0022-006X.57.2.242
- Koss, M.P., Dinero, T.E., Siebel, C.A., & Cox, S.L. (1988). Stranger and acquaintance rape: Are there differences in the victim's experience? *Psychology of Women Quarterly*, 12, 1-24. doi:10.1111/j.1471-6402.1988.tb00924.x

- Kraemer, G.W., Lord, W.D., & Heilbrun, K. (2004). Comparing single and serial homicide offenses. *Behavioral Sciences & the Law*, 22, 325-343. doi: 10.1002/bsl.581
- LeBeau, J.L. (1987). The journey to rape: Geographic distance and the rapist's method of approaching the victim. *Journal of Police Science & Administration*, 15, 129-136. Retrieved from <http://heinonline.org/HOL/Page?collection=journals&handle=hein.journals/jclc78&type=Image&id=321>
- Machin, S. & Marie, O. (2006). *Reducing crime by targeting prolific offenders*. Unpublished manuscript, London School of Economics/Maastricht University. Retrieved from <http://wpeg.group.shef.ac.uk/Archive/refereeing2006/papers20006/Marie.pdf>
- Mokros, A. & Alison, L. J. (2002). Is offender profiling possible? Testing the predicted homology of crime scene actions and background characteristics in a sample of rapists. *Legal and Criminological Psychology*, 7, 25-43. doi:10.1348/135532502168360
- Muram, D., Hostetler, B. R., Jones, C. E., & Speck, P. M. (1995). Adolescent victims of sexual assault. *Journal of Adolescent Health*, 17, 372-375.
- Park, J., Schlesinger, L.B., Pinizzotto, A.J., & Davis, E.F. (2008). Serial and single-victim rapists: differences in crime-scene violence, interpersonal involvement, and criminal sophistication. *Behavioral Sciences & the Law*, 26, 227-237. doi:10.1002/bsl.804

- Piquero, A.R., Farrington, D., & Blumstein, A. (2007). *Key issues in criminal career research: New analyses of the Cambridge study in delinquent development*. Cambridge, England: Cambridge University Press.
- Reisig, M.D., & Parks, R.B. (2000). Experience, quality of life, and neighborhood context: A hierarchical analysis of satisfaction with police. *Justice Quarterly*, 17, 607-630. doi: 10.1080/074188200000094681
- Salfati, C.G. (2003). Offender interaction with victims in homicide: A multidimensional analysis of frequencies in crime scene behaviors. *Journal of Interpersonal Violence*, 18, 490-512. doi:10.1177/0886260503251069
- Salfati, C.G. & Bateman, A.L. (2005). Serial homicide: an investigation of behavioural consistency. *Journal of Investigative Psychology and Offender Profiling*, 2, 121-144. doi:10.1002/jip.27
- Santtila, P., Junkkila, J., & Sandabba, N. K. (2005). Behavioural linking of stranger rapes. *Journal of Investigative Psychology and Offender Profiling*, 2, 87-103. doi:10.1002/jip.26
- Sexual Offences Act (2003). Retrieved from [http://www.legislation.gov.uk/ukpga/2003/42/pdfs/ukpga\\_20030042\\_en.pdf](http://www.legislation.gov.uk/ukpga/2003/42/pdfs/ukpga_20030042_en.pdf)
- Silbert, M.H. & Pines, A.M. (1982). Entrance into prostitution. *Youth & Society*, 13, 471-500. doi:10.1177/0044118X82013004005
- Silbert, M.H. & Pines, A.M. (1984). Pornography and sexual abuse of women. *Sex Roles*, 10, 857-868. doi:10.1007/BF00288509
- Sullivan, B. (2007). Rape, prostitution and consent. *Australian and New Zealand Journal of Criminology*, 40, 127-142. doi: 10.1375/acri.40.2.127

- Tjaden, P. & Thoennes, N. (2000). *Extent, nature, and consequences of intimate partner violence: Findings from the national violence against women survey* (DOJ Publication No. NCJ 181867). Washington DC: U.S. Department of Justice.
- Warr, M. (1985). Fear of rape among urban women. *Social Problems*, 32, 238-250.  
doi:10.1525/sp.1985.32.3.03a00060
- Wilcox, P., Jordan, C.E., & Pritchard, A.J. (2006). Fear of acquaintance versus stranger rape as a "master status": Towards refinement of the "shadow of sexual assault". *Violence and Victims*, 21, 355-370. doi:10.1891/vivi.21.3.355
- Woodhams, J., Grant, T. D., & Price, A. R. G. (2007). From marine ecology to crime analysis: Improving the detection of serial sexual offences using a taxonomic similarity measure. *Journal of Investigative Psychology and Offender Profiling*, 4, 17-27. doi: 10.1002/jip.55
- Woodhams, J., Hollin, C.R., & Bull, R. (2007). The psychology of linking crimes: A review of the evidence. *Legal and Criminological Psychology*, 12, 233-249. doi: 10.1348/135532506X118631
- Woodhams, J. & Toye, K. (2007). An empirical test of the assumptions of case linkage and offender profiling with serial commercial robberies. *Psychology, Public Policy, and Law*, 13, 59-85. doi:10.1037/1076-8971.13.1.59

Table 1

*Incidence of Behaviours in the Control Domain*

Behaviour	Serial % of Offences (N=38)	Non-Serial % of Offences (N=50)	All Rapists % Offences (N=88)	$\chi^2$	Phi
Indoors	21.1	42.0	33.0	4.288*	-.221*
Outdoors	86.8	76.0	80.7	1.628	.136
Industrial Area	7.9	4.0	5.7	.611	.083
Retail Area	63.2	42.0	51.1	3.868*	.210*
Residential Area	71.1	84.0	78.4	2.138	-.156
Rural Area	13.2	8.0	10.2	.626	.084
Living Quarters	23.7	40	33.0	2.601	-.172
In a Vehicle	15.8	14.0	14.8	.055	.025
Entertainment Area	7.9	20.0	14.8	2.513	-.169
Public Area	15.8	10.0	12.5	.662	.087
Parking Area	23.7	6.0	13.6	5.733*	.255*
Alleyway	5.3	8.0	6.8	.255	-.054
Wooded Area	13.2	2.0	6.8	4.231	.219*
Access Path	18.4	14.0	15.9	.315	.060
Street	68.4	46.0	55.7	4.398*	.224*
Main Road	18.4	24.0	21.6	.397	-.067
Park	15.8	10.0	12.5	.662	.087
Asked Victim for Help	2.6	8.0	5.7	1.161	-.115
Solicited Victim	31.6	2.0	14.8	15.004**	.413**
Offered Ride to Victim	.0	10.0	5.7	4.029	-.214*
Engaged Victim in Conversation	7.9	24.0	17.0	3.961*	-.212*
Threatened Victim upon Approach	2.6	8.0	5.7	1.161	-.115
Snuck Up on Victim	44.7	28.0	35.2	2.651	.174

Victim was Sleeping when Approached	7.9	12.0	10.2	.396	-.067
Gagged Victim	10.5	2.0	5.7	2.929	.182
Covered Victim's Mouth	34.2	24.0	28.4	1.107	.112
Bound the Victim	10.5	.0	4.5	5.514*	.250*
Verbally Threatened Victim	55.3	54.0	54.5	.014	.013
Attempted to Reassure Victim	31.6	24.0	27.3	.625	.084
Upon Resistance used Some Violence	28.9	16.0	21.6	2.138	.156
Without Resistance used Some Violence	28.9	28.0	28.4	.010	.010
Threatened to Use Weapon, but Never Seen	13.2	10.0	11.4	.214	.049
Displayed Weapon but did not Use	10.5	20.0	15.9	1.448	-.128
Weapon was Used	7.9	6.0	6.8	.122	.037
Weapon was Brought By Rapist	21.1	20.0	20.5	.015	.013
Weapon was a Stabbing Instrument	28.9	30.0	29.5	.011	-.011

*Note.* \*  $p < .05$ . \*\*  $p < .001$

Table 2

*Incidence of Behaviours in the Sex Domain*

Behaviour	Serial % of Offences (N=38)	Non-Serial % of Offences (N=50)	All Rapists % Offences (N=88)	$\chi^2$	Phi
Rapist Kissed Victim's Face	28.9	46.0	38.6	2.648	-.173
Rapist Kissed Victim's Chest	7.9	14.0	11.4	.799	-.095
Rapist Kissed Victim on Other Area	5.3	8.0	6.8	.255	-.054
Rapist Fondled Victim	52.6	30.0	39.8	4.617*	.229*
Rapist Masturbated	13.2	10.0	11.4	.214	.049
Rapist Performed Oral Sex on Victim	10.5	8.0	9.1	.167	.044
Rapist Used Hand to Penetrate Vagina	28.9	18.0	22.7	1.473	.129
Rapist Used Penis to Penetrate Vagina	60.5	70.0	65.9	.862	-.099
Rapist Penetrate Vagina from Behind	23.7	20.0	21.6	.173	.044
Rapist Used Hand to Penetrate Anus	7.9	2.0	4.5	1.729	.140
Rapist Used Penis to Penetrate Anus	28.9	18.0	22.7	1.473	.129
Victim Kissed Rapist's Face	5.3	8.0	6.8	.255	-.054
Victim Masturbated Rapist	18.4	2.0	9.1	7.045*	.283*
Victim Performed Fellatio	34.2	28.0	30.7	.392	.067
Rapist was Naked	7.9	10.0	9.1	.116	-.036
Victim was Naked	23.7	16.0	19.3	.818	.096
Victim was Partially Disrobed	36.8	40.0	38.6	.091	-.032
Victim's Clothing was Moved to Expose	21.1	32.0	27.3	1.305	-.122
Rapist Disrobed Victim	63.2	72.0	68.2	.778	-.094
Victim Disrobed Herself	31.6	20.0	25.0	1.544	.132
Rapist Disrobed Himself	76.3	76.0	76.1	.001	.004
Clothing was Removed without Damage	18.4	6.0	11.4	3.307	.194
Clothing Removed was Torn Off	15.8	16.0	15.9	.001	-.003
Rapist Discussed Sex Acts	55.3	30.0	40.9	5.700*	.255*

Note. \*  $p < .05$ . \*\*  $p < .01$

Table 3

*Incidence of Behaviours in the Escape Domain*

Behaviour	Serial % of Offences (N=38)	Non-Serial % of Offences (N=50)	All Rapists % Offences (N=88)	$\chi^2$	Phi
Wore Gloves	10.5	2.0	5.7	2.929	.182
Covered Victim's Eyes	10.5	6.0	8.0	.604	.083
Told Victim 'Not to Look'	26.3	12.0	18.2	2.975	.184
Used a Condom	5.3	6.0	5.7	.022	-.015
Used a False Name	7.9	10.0	9.1	.116	-.036
Warned Victim Not to Report Offence	26.3	18.0	21.6	.882	.100
Instructions to Ensure His Safe Escape	15.8	18.0	17.0	.075	-.029
Makes Reference to Justice System	18.4	6.0	11.4	3.307	.194



Table 4

*Incidence of Behaviours in the Style Domain*

Behaviour	Serial % of Offences (N=38)	Non-Serial % of Offences (N=50)	All Offenders % Offences (N=88)	$\chi^2$	Phi
Discusses Victim's Sex Practices	7.9	6.0	6.8	.122	.037
Orders Victim to Participate	10.5	8.0	9.1	.167	.044
Uses Abusive Language	23.7	14.0	18.2	1.361	.124
Expresses Curiosity About Victim	21.1	18.0	19.3	.129	.038
Rapists Discloses Information about Self	44.7	38.0	40.9	.405	.068
Tries to Ingratiating Himself with Victim	13.2	12.0	12.5	.026	.017
Compliments the Victim	13.2	10.0	11.4	.214	.049
Apologises to Victim	15.8	8.0	11.4	1.301	.122
Attempts to Prolong Relationship	7.9	6.0	6.8	.122	.037
Displays Personal Knowledge of Victim	7.9	4.0	5.7	.611	.083
Says Victim Feels Enjoyment in Offence	15.8	14.0	14.8	.055	.025
Justifies Actions	13.2	14.0	13.6	.013	-.012